

15 mM trisodium citrate), 50 mM sodium phosphate (pH 7.6), 5X Denhardts solution, 10 % dextran sulfate, and 20 micrograms per ml denatured, sheared salmon sperm DNA, and wherein the polypeptide lacks a functional transmembrane domain, a functional cytoplasmic domain, or both, and wherein said polypeptide has one or more of the following functional characteristics:

*E1*

- a) binds a known LHR ligand or anti-LHR antibody;
- b) induces anti-LHR antibodies;
- c) mediates binding of lymphocytes to endothelium of lymphoid tissue; or
- d) competes with normal binding of lymphocytes to lymphoid tissue.

52. (Twice Amended) An isolated polypeptide encoded by a DNA able to hybridize under stringent conditions to the complement of a DNA sequence encoding the carbohydrate binding domain (Trp39 to Cys155), the epidermal growth factor domain (Cys160 to Leu193); or a complement binding domain (Cys197 to Glu328) of the leukocyte homing receptor (LHR) amino acid sequence shown in FIG. 1 (SEQ ID NO:2), wherein the polypeptide is devoid of a functional transmembrane domain, and wherein the stringent conditions are overnight incubation at 42° C in a solution comprising 20% formamide, 5X SSC (150 mM NaCl, 15 mM trisodium citrate), 50 mM sodium phosphate (pH 7.6), 5X Denhardts solution, 10 % dextran sulfate, and 20 micrograms per ml denatured, sheared salmon sperm DNA, and wherein said polypeptide has one or more of the following functional characteristics:

*E2*

- a) binds a known LHR ligand or anti-LHR antibody;
- b) induces anti-LHR antibodies;
- c) mediates binding of lymphocytes to endothelium of lymphoid tissue; or
- d) competes with normal binding of lymphocytes to lymphoid tissue.

53. (Twice Amended) An isolated polypeptide encoded by a DNA able to hybridize under stringent conditions to the complement of a DNA sequence encoding the carbohydrate

domain (Trp39 to Cys155), the epidermal growth factor domain (Cys160 to Leu193); or a complement binding domain (Cys197 to Glu328) of the leukocyte homing receptor (LHR) amino acid sequence shown in FIG. 1 (SEQ ID NO:2), wherein the polypeptide is devoid of a functional cytoplasmic domain, and wherein the stringent hybridization conditions comprise 20% formamide, 5X SSC (150 mM NaCl, 15 mM trisodium citrate), 50 mM sodium phosphate (pH 7.6), 5X Denhardts solution, 10 % dextran sulfate, and 20 micrograms per ml denatured, sheared salmon sperm DNA, overnight at 42° C, and wherein said polypeptide has one or more of the following functional characteristics:

*E2*

- a) binds a known LHR ligand or anti-LHR antibody;
- b) induces anti-LHR antibodies;
- c) mediates binding of lymphocytes to endothelium of lymphoid tissue; or
- d) competes with normal binding of lymphocytes to lymphoid tissue.

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57. (Amended) An isolated polypeptide consisting essentially of an amino acid sequence that is at least 70% homologous to one or more of the carbohydrate binding domain (Trp39 to Cys155), the epidermal growth factor domain (Cys160 to Leu193), or a complement binding domain (Cys197 to Glu328) of the leukocyte homing receptor having the amino acid sequence of SEQ ID NO:2, and wherein said polypeptide has one or more of the following functional characteristics:

*E3*

- a) binds a known LHR ligand or anti-LHR antibody;
- b) induces anti-LHR antibodies;
- c) mediates binding of lymphocytes to endothelium of lymphoid tissue; or
- d) competes with normal binding of lymphocytes to lymphoid tissue.

58. The polypeptide of claim 57, having the amino acid sequence spanning Trp39 to Cys155 of SEQ ID NO:2.

59. The polypeptide of claim 57, having the amino acid sequence spanning Cys160 to Leu193 of SEQ ID NO:2.

60. The polypeptide of claim 57, having the amino acid sequence spanning Cys197 to Glu328 of SEQ ID NO:2.

61. An isolated polypeptide comprising an amino acid sequence that is at least 70% homologous to one or more of the carbohydrate binding domain (Trp39 to Cys155), the epidermal growth factor domain (Cys160 to Leu193), or a complement binding domain (Cys197 to Glu328) of the leukocyte homing receptor having the amino acid sequence of SEQ ID NO:2, wherein the polypeptide lacks a functional transmembrane domain, and wherein said polypeptide has one or more of the following functional characteristics:

- a) binds a known LHR ligand or anti-LHR antibody;
- b) induces anti-LHR antibodies;
- c) mediates binding of lymphocytes to endothelium of lymphoid tissue; or
- d) competes with normal binding of lymphocytes to lymphoid tissue.

62. An isolated polypeptide comprising an amino acid sequence that is at least 70% homologous to one or more of the carbohydrate binding domain (Trp39 to Cys155), the epidermal growth factor domain (Cys160 to Leu193), or a complement binding domain (Cys197 to Glu328) of the leukocyte homing receptor having the amino acid sequence of SEQ ID NO:2, wherein the polypeptide lacks a functional cytoplasmic domain, and wherein said polypeptide has one or more of the following functional characteristics:

- a) binds a known LHR ligand or anti-LHR antibody;
- b) induces anti-LHR antibodies;